REMARKS

The Office Action dated December 13, 2004 has been received and carefully noted. The above amendments to claim 1, Specification, and the following remarks, are submitted as a full and complete response thereto.

OBJECTION TO THE SPECIFICATION:

The Specification was objected to on page 2 of the Office Action because a description of Figure 56 was not included in the Specification. Applicants respectfully traverse such objection and respectfully direct attention to at least page 111 of the Specification. For instance, on page 111, lines 6-28, of the Specification, a description is provided of Figure 56, in accordance with an aspect of the present invention. Accordingly, it is respectfully requested that the objections to the Specification be withdrawn.

Furthermore, page 5 of the Specification has been amended to resolve minor typographical errors. No new matter is introduced and approval of the amendments is respectfully requested.

REJECTION UNDER 35 U.S.C. § 112:

In the Office Action, at page 2, claims 1-2 were rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness.

In response, claim 1 has been amended to improve clarity of the features recited therein.

Accordingly, it is respectfully requested that the § 112, second paragraph rejections to the claims be withdrawn.

REJECTION UNDER 35 U.S.C. § 102:

In the Office Action, at page 3, claims 1-4 were rejected under 35 U.S.C. § 102 as being anticipated by U. S. Patent No. 6,393,483 to Latif ("Latif"). The Office Action took the position that Latif describes all the recitations of independent claims 1 and 3 and related dependent claims. This rejection is traversed and reconsideration is requested.

Claim 1, upon which claim 2 depends, recites a method for avoiding out-of-ordering of frames in a network. The method recited in claim 1 includes receiving a first portion of a string of packets from a source port on a first port, transferring said first portion of said string of packets of a second port for transmission to a destination, sending an indicator from said first port to said second port, and sending a response indicator from said second port to said first port in response to receiving of said indicator at said second port. The method also includes receiving a second portion of said string of packets from said source port on a third port, wherein said transmission of said first portion of said string of packets to the destination is performed after the response indicator is received at said first port.

Claim 3, upon which claim 4 depends, recites a method for avoiding out-of-ordering of frames in a network. The method recited in claim 3 includes receiving

packets on a first ingress port from a source port, transmitting said packets from said first ingress port to an egress port for transmission to a destination, determining to switch said receiving of said packets to a second ingress port, sending a switch indicator from said first ingress port to said egress port, and determining when to send a response switch indicator from said egress port to said first ingress port. The method also includes sending said response switch indicator from said egress port to said first ingress port, forwarding said response switch indicator to said source port, and switching said receiving of said packets to said second ingress port.

As will be discussed below, the reference cited of Latif fails to teach or suggest the elements of any of the presently pending claims.

Latif generally describes a process for driving a network interface card using a round robin technique. See column 2, lines 55-56. As shown in Fig. 3, each port of a multi-port NIC 130 has its own link to a network 110, hub, or switch, which enables the multi-port NIC 130 to reconfigure automatically to recover from a port failure. See Fig. 3 and column 6, lines 13-35. The multi-port NIC 130 has ports P_1, P_2, P_3, and P_4 connected to node inputs on a switch 140 located within the network 110. The multi-port NIC 130, driven by a smart NIC driver 126, reconfigures a multi-port driver by redistributing the load (both transmit and receive) over the remaining active ports. To manage packet switching, switch 140 typically creates routing tables and stores packet data in queues before routing the data to its destination, which may be any one or more Hosts 132a through 132n, which may be connected to switch 140 of network 110.

FIG. 4 of Latif shows a table containing status, function, ports, MAC addresses, and source addresses of the network connections illustrated in FIG. 3. P_1 is designated as a primary receiving (Rx) port as well as a transmitting (Tx_1) port; while ports P_2, P_3, and P_4 are designated as transmit ports Tx_2, Tx_3, and Tx_4, respectively.

However, rather than teaching or suggesting, "sending an indicator from said first port to said second port; receiving said indicator at said second port; sending a response indicator from said second port to said first port in response to said receiving of said indicator at said second port," as recited in independent claim 1, Latif describes that when a new transmit request is received for a new host by the multi-port NIC 130, the smart NIC driver 126 illustrated in Fig. 2 examines each transmit port Tx_2, Tx_3, and Tx_4, and based on this examination, the smart NIC driver 126 will determine whether any port is currently free. Similarly, Latif fails to teach or suggest, "determining when to send a response switch indicator from said egress port to said first ingress port," and "sending said response switch indicator from said egress port to said first ingress port," as recited in independent claim 3. There is no description in Latif providing sending and receiving of indicators between the transmitting ports Tx_1, Tx_2, Tx_3, and Tx_4 and the ports P_1, P_2, P_3, and P_4 described therein. Instead, the Latif a method to determine the status of each port P_1, P_2, P_3, and P_4 connected to the node inputs on the switch 140.

The descriptions of Figs. 2-4 in Latif are silent that the first port P_1 described therein sends an indicator to the second port P_2 and that the second port P_2 sends a response indicator to the first port P_1, in response to the receipt of the indicator at the second port P_2. Similarly, there is no teaching or suggestion in Latif that a response

switch indicator is sent from the transmitting port Tx_1 to the first port P_1 described therein.

Furthermore, in Figs. 4 and 8 and corresponding descriptions, Latif detects a failure in one of the plurality of ports connected to the network and re-assigns data transmitted over the failed one of the plurality of ports to an active port of the plurality of ports selected in a round robin technique. See column 6, lines 36-67. Specifically, when the failed one of the plurality of ports is the primary receiving port, the receiving tasks are assigned to a next active port selected in a round robin technique.

However, Latif fails to teach or suggest, at least, "receiving a second portion of said string of packets from said source port on a third port, wherein said transmission of said first portion of said string of packets to the destination is performed after the response indicator is received at said first port," as recited in independent claim 1. Latif is devoid of any description regarding transmission of a portion of a string of packets between the first port P_1 and the second port P_2 based on the receipt of a response indicator at the first port P_1. It is clear that the focus of Latif is not to prevent out-of-ordering of frames in a network switch as in the presently claimed invention. Rather, Latif provides a method to monitor the status of ports and re-assigning data transmitted over a failed port.

Although the above arguments are directed to claims 1 and 3, it is respectfully submitted that the arguments will be helpful in understanding differences in several of the other claims over the cited references. For instance, Latif is silent as to teaching or suggesting, "said step of determining when to send a response switch indicator further

comprises the step of waiting to send said response switch indicator until a number of packets in said egress port are transmitted to said egress port to said destination," as recited in dependent claim 4. There is no waiting state in Latif regarding the sending of a response switch indicator based on the transmission of a number of packets to a destination.

Therefore, Applicants respectfully submit that claims 1 and 3 are therefore patentable over Latif at least for the reasons set forth above. Dependent claim 2 depends directly upon claim 1 and thereby inherits all of the patentable distinctions thereof. Therefore, Applicants respectfully submit that claim 2 is patentable over Latif at least for the reasons discussed above in connection with independent claim 1.

CONCLUSION:

In view of the above, applicant respectfully submits that the claimed invention recites subject matter which is neither disclosed nor suggested in the cited prior art. Applicants further submit that the subject matter is more than sufficient to render the claimed invention unobvious to a person of skill in the art. Applicants therefore respectfully request that each of claims 1-4 be found allowable and this application passed to issue.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by

telephone, the applicant's undersigned attorney at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, the Applicants respectfully petition for an appropriate extension of time.

Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,

Alicia M. Choi
Registration No. 46,621

Customer No. 32294
SQUIRE, SANDERS & DEMPSEY LLP
14TH Floor
8000 Towers Crescent Drive
Tysons Corner, Virginia 22182-2700
Telephone: 703-720-7800
Fax: 703-720-7802

AMC:jf